AMENDMENTS TO THE SPECIFICATION

Please amend paragraph [0134] on page 56, as follows:

[0134] Next, the control section 105 increments N by 1 (Step S402), and allocates the selection probability p(j) represented by Equation (1) to all the chromosomes B(i) in the chromosome received power table (Step S403). Thus, for example, a selection probability q(1) will be allocated to the chromosome B(1), and a selection probability q(2) will be allocated to the chromosome B(2).

$$\underline{p(j) = \frac{RSSI(j)}{\sum_{i=0}^{Nc} RSSI(i)}} \qquad \text{(Equation 1)}$$

Where, Nc represents the number of chromosomes.

Please amend paragraph [0136] on page 57, to page 58, as follows:

[0136] Next, the control section 105 allocates a cumulative probability q(i) represented by Equation (2) to all the chromosomes B(i) in the chromosome received power table (Step S404). Thus, for example, the cumulative probability q(1) will be allocated to the chromosome B(1), and the cumulative probability q(2) will be allocated to the chromosome B(2).

$$\underline{q(i) = \sum_{j=1}^{i} p(j)} \qquad \text{(Equation 2)}$$

Please amend paragraph [0139] on page 57, as follows:

[0139] Next, the control section 105 calculates for i which satisfies Equation (3) for the generated random number r, selects the chromosome B(i+1) corresponding to q(i+1), and registers the selected chromosome B(i+1) as a chromosome C(N) in the chromosome received power table after natural selection along with the received power corresponding to the selected chromosome B(i+1) (Step S406).

$$\underline{q(i) < r < q(i+1)} \qquad \text{(Equation 3)}$$

Please amend paragraph [0143] on page 58, as follows:

[0143] First, the control section 105 initializes as i=0 (Step S501). Next, the control section 105 increments i by 1 (Step S502), and generates a random number r(i) (0<r(i)<1) (Step S503). Next, the control section 105 determines whether or not Equation (4) is satisfied (Step S504).

$$\underline{r(i) < pc} \qquad \text{(Equation 4)}$$

Where, pc is a crossover probability and is defined in advance.

Please amend paragraph [0147] on page 59, as follows:

[0147] At Step S507, the control section 105 determines the crossover position at random. For example, the control section 105 generates a random number r(k) (1<=k<=16) for every bit (here, it may be 16 bits) of the chromosome, and determines whether or not the generated random number r(k) satisfies conditions of Equation (5).

$$\underline{r(k) < 0.5} \qquad \text{(Equation 5)}$$

Please amend paragraph [0151] on page 60, to page 61, as follows:

[0151] First, the control section 105 initializes as i=0 (Step S601). Next, the control section 105 increments i by 1 (Step S602). Next, the control section 105 determines at random whether or not to mutate the chromosome D(i) in the chromosome table after crossover, and if it is mutated, determines the position of the gene to be mutated at random (Step S603). Specifically, the control section 105 generates a random number r(l) (1<=l<=16), and if the random number r(l) satisfies Equation (6), determines a bit corresponding to l as a position of the gene to be mutated.

$$\underline{r(l) < pm} \qquad \text{(Equation 6)}$$

Where, pm is a mutation probability and is defined in advance.

Please amend paragraph [0278] on page 102, as follows:

[0278] Next, the control section 105 acquires the chromosome A(i) stored in the storage section 106 in a manner similar to Step S1104 in FIG. 23A to evaluate it (Step S2204). At

Step ~~S1104~~ S2204, if there is an appropriate chromosome, the control section 105 completes the processing. Meanwhile, if there is no appropriate chromosome at Step 2204, the control section 105 proceeds to operation at Step S2205.

Please amend paragraph [0278] on page 102, as follows:

[0292] In the fourth embodiment, the operation of the control section 105 is similar to that in the first embodiment, except for the control method of the matching circuit 400. In the first embodiment, the control section 105 has calculated for the serial varactor voltage and parallel varactor voltage corresponding to the chromosome, and determined to apply these varactor voltages to the matching circuit 102. In the fourth embodiment, the control section 105 controls the impedance of the whole matching circuit 400 by turning on and off the switch in the matching circuit 400 depending on each gene in the chromosome. For example, if the gene of the n-th (n= 1, 2, ..., 8) bit is "1", the control section 105 turns on an n-th switch, while, if the gene of the n-th bit is "0", it turns off ~~on~~ the n-th switch.

Please amend paragraph [0401] on page 142, as follows:

[0401] Since it is shown that the smaller the reflected voltage is, the further the impedance is matched, the selection probability p(i) used for a difference in natural selection of the chromosome will be given by Equation (7).

$$p(j) = \frac{\dfrac{1}{RSSI(j)}}{\displaystyle\sum_{i=0}^{Nc} \frac{1}{RSSI(i)}} \qquad \text{(Equation 7)}$$

A chromosome with small reflected voltage will be preferentially selected by using the selection probability p(i) shown by Equation (7).

Please amend paragraph [0426] on page 151, as follows:

[0426] One half of the difference L2 is added to the smaller one of the varactor voltages 207 of the load value A and the load value B like Equation ~~(10)~~ (12), and the resulting value is set as the varactor voltage 207 of the load value Ax.

Varactor voltage 207 of load value $Ax=1.0+(L2)/2$ ... Equation (12)